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THE MUSHROOM GROWERS'
ASSOCIATION

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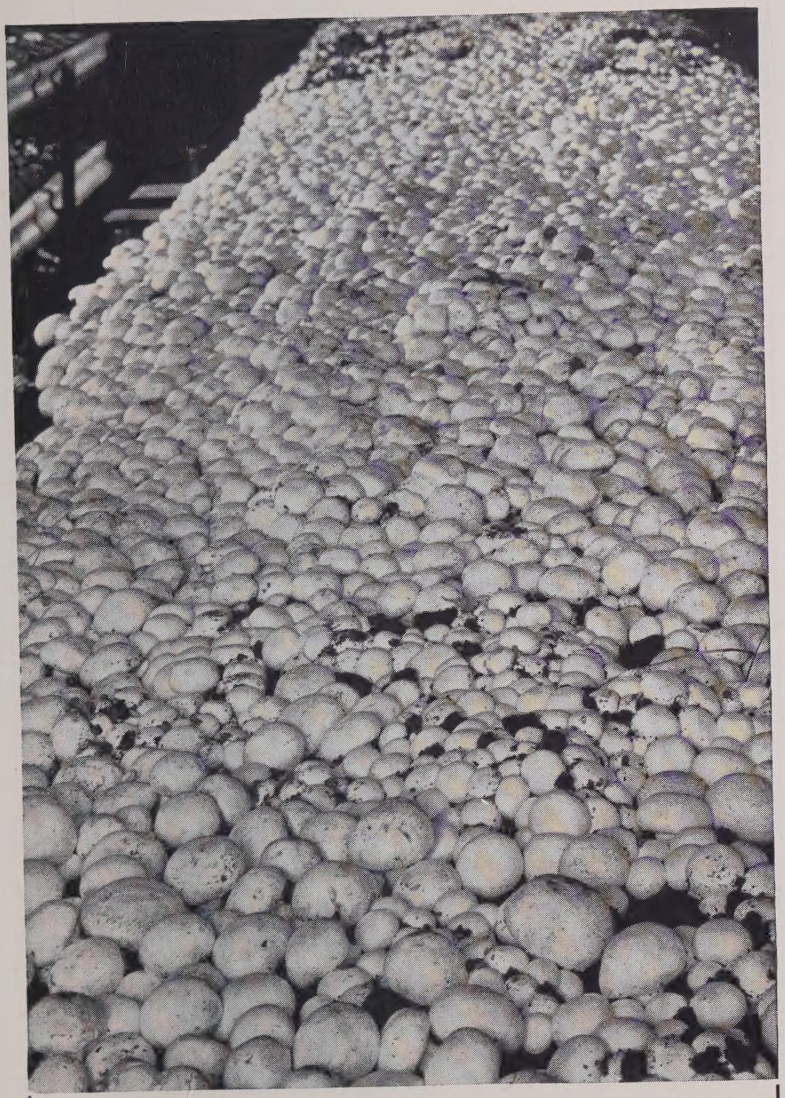

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The
MGA BULLETIN

NOVEMBER 1956
NUMBER 83

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EDITORIAL

HOUSE IN ORDER

One of the main topics of conversation in recent years has been the ever increasing cost of living. Mushroom growers are no race apart and they, like others, have watched with some dismay the ever falling value of the £ at home. True, this downward trend has from time to time been arrested, but invariably the halt has been brief before the slide again becomes apparent.

One of the first things that struck me when I became associated with the MGA, was the slenderness of the Association's finances, for, if ever an organisation existed from hand to mouth, it was the MGA, especially in the earlier years.

The precarious financial footing on which the MGA rests persist to this day, and it is a step in the right direction when the MGA Executive Committee agreed at its last meeting, that a special effort should be made to make the Association more financially sound.

Accordingly, at 4 p.m., on 15th November, on the occasion of the Annual Mushroom Industry Exhibition, members are being called to an extraordinary general meeting to discuss this matter of finance.

When viewing the matter, it is as well to remember, that the present rates of subscription were fixed **as far back as November, 1946**, and the value of the £ to-day, as compared with ten years ago, is 12/1d., or a little over half what it was then.

It is no mean achievement to have existed so long without raising the subscription, but, bearing in mind the increasing importance of the mushroom industry as a whole, it is high time that the MGA put its house in order.

WRA

BEGINNERS' MISTAKES

(The second crop)

By T. G. FIGGIS

My first effort at growing mushrooms was fully described in Bulletins 76 and 77—"Beginners' Luck." It was a fine disease-free crop and picking of good mushrooms continued to the 18th/19th flush at 28 weeks with yields up to 5½ lb. per square foot on the best trays. During the last few weeks no insecticides were used and, because of alterations in the house, the door was often left open. As a result, for the first time in my life, I saw Cecid larvae and (I believe) three species of mite.

I have called this article "Beginners' Mistakes." Perhaps in growing mushrooms the old adage: "The man who never made a mistake never made anything," is supremely true. Certainly I did some very foolish things, but I learnt a lot in the efforts to correct bad conditions.

The "House" used for No. 2 crop was fully described in "Beginners' Luck" and the technique and equipment used were similar with the important difference that this time it really was a "full house" with additional bed-irons to support five rows of trays (instead of 3) and a further nest of trays placed at one end. Total 220 sq. ft. with a ratio of 3·7 cu. ft. free air space to 1 sq. ft. of bed area. A simple air supply duct discharging at floor level was fitted to the fan unit as it was considered essential to provide continuous forced air circulation in Summer for the doubled tray area.

Mistake No. 1 produced what I trust will be far the worst looking compost I ever put in a house. Fully half of it was 'green' and rank and was so little composted that one could still smell ammonia in the house **after** peak heating. Sufficient to say this was a planned one turn short compost which could not compost aerobically as the pile size was miscalculated on the only turn and finished up nearly 8 ft. high. For personal reasons I could not afford to replan the programme to give the heap the extra turn and four days which its condition required. It was decided to gamble and complete composting in the house. Partial Lambert and Ayers technique was followed as before with about 8 hours Peak Heat with air 130/135° F. and compost 145° F. This was followed by four days conditioning at 115° F., the ammonia smell gradually disappearing with a reduction in pH from 8·3 to 7·7. The finished compost I think would have pleased the oldest and most experienced grower. Frankly I look back on those days as an educating experience, but the final verdict must still be Mistake No. 1. We had used heat and growing space for several days longer than necessary and, above all, we had only been able to fill our trays at about 185 sq. ft. per ton of manure (20% less food value per sq. ft. than crop No. 1).

Mistake No. 2 was overwatering for the atmospheric conditions of a humid Summer. Wrongly or rightly I had come to believe in plenty of water, but I ignored the almost continuous warnings of my wet and dry bulb thermometer in July—often only ¼/½° F. depression (95%+ relative humidity) instead of the 1½/2° F. of No. 1 crop last Winter.

Perhaps matters were made worse by some cooling experiments with ice during a short spell of hot weather in late July—to crown all, my home-made fan failed on a warm night! The outcome was severe bacterial infection with substantial Spot and Pit from the 5th flush –easily worst on the top rows. In the sixth week of cropping Red Geotrichum was identified and soon was widely distributed.

All watering was stopped and every effort made to reduce the relative humidity of the house. In the wet month of August this was a slow difficult business and only rarely was the R.H. below 90%. For about five weeks the bulk of the trays received no water at all. Gradually

CROP SUMMARY

	No. 1 Crop		**No. 2 Crop**			
	Spawn A	Spawn B	Spawn A	Spawn B1	Spawn Cg	Spawn Cm
	34	23	48	21	10	12 trays on
	3	3	5	2	1	1 rows
First pinheads	28	27	26	26	25	27 } days from
First picking ..	36	36	33	33	33	34 } spawning
	3/11	/55		1/7/56		
First pound ..	12	17	12	11	12	12 } days from
Second pound	33	51	41	40	42	55 } start of
Third pound ..	66	/91	—	—	—	— } picking
Yield						
4 weeks ..	1·73	1·39+	1·67	1·62	1·63	1·38 } pounds
8 weeks ..	2·67	2·11+	2·36	2·39	2·40	2·00 } per sq.
12 weeks ..	3·57	2·87	2·67	2·74	2·72	2·41 } ft.
16 weeks ..	4·09	3·32	—	—	—	—
†per annum ..						
—maximum—	10·3		8·7	8·8	8·8	lb. per sq. ft. p.a.
@ ( ) weeks	(13)		(7)	(7)	(7)	for ( ) weeks crop
*Yield in pounds per cu. ft. p.a.	1·17		1·92	1·93	1·93	pounds per cu. ft. p.a.
Sq. ft. per ton of manure	145		185	185	185	estimated

All weights are of saleable mushrooms **without** stalks. Approximately 80% of crops picked as "flats."

+ Hard Gill "infection" reduced yield.

†Yield p.a. max. assumes 6 weeks from emptying to start of cropping. The best **economic** yield p.a. is usually 85—90% of the maximum yield p.a.

*Calculated from †. Cu. ft., includes gross capacity of growing rooms heat and spawn rooms.

conditions improved and although yield and mushroom weights fell away sharply, the Spot, Pit and Geotrichum were eventually much reduced. I should mention that 9 top row trays had been treated (after 1st flush) with chlorinated water (sodium hypochlorate 200 parts per million). These treated trays were by no means free of Pit or Spot, but were undoubtedly less severely infected than untreated top row trays.

Comments

1. Trays (by rows) were spawned with a Continental grain (spawn A), an English grain (spawn B), and an English manure, spawn in both the dry granulated (spawn Cg) and moist manure (spawn Cm) forms. Excellent and rapid spawn runs were obtained from all types and positions with the exception of an experimental (bottom) row of spawn A at about 200 sq. ft. per carton. Sphagnum peat chalk in equal proportions by volume was used 1″ thick on all trays—at 12 days for the two upper rows, 13 days for the two middle rows and 14 days for the bottom rows.

It is my opinion that the manure spawn Cm and the experimental very light row of Spawn A were insufficiently 'run' and were cased several days too early. Yield results were significantly (10—15%) below average and have, therefore, been omitted from the final sections of the Crop Summary.

2. Spawns A, B1 and Cg gave very similar yields in No. 2 crop and it is noteworthy that Spawn B1 (a new strain by the makers of B used in Crop 1) produced no " hard gill " mushrooms.

3. Detailed cropping figures over the first seven weeks are within 10% of the excellent results obtained from Spawn A in Crop No. 1—some drop was expected as the penalty for Mistake No. 1.

4. Whereas No. 1A Crop averaged 0·22 weekly from the 7th to 11th weeks, No. 2 Crop began to fall off sharply from the 7th week. In my opinion this was partly due to Mistake No. 2. It is impossible to say what this meant in terms of yield. Quality deteriorated and there was a complete absence of large mushrooms—almost an embarrassment earlier in the crop!

5. On page 287 of Bulletin 81 reference is made to the possibility of obtaining 10 lb. per sq. ft. per annum on shelves. The last part of the Crop Summary gives theoretical maximum annual outputs for Crops 1 and 2, based on a 6 week " no cropping " period.

I have dared to calculate a new comparative value—annual yield in pounds per cubic foot (gross capacity of growing rooms including heat and spawn rooms). Despite its troubles with No. 2 crop potential annual yield is up from 1·17 for Crop No. 1 to 1·93 lb. per cu. ft. p.a. One day I hope to reach a target, not only of 10 lb. per sq. ft. p.a. but of about 3 lb. per cu. ft. p.a.

What about using your own slide rule? Please don't shoot the pianist if you dislike your 1956 lb. per cu. ft. p.a. output.

Fred. Atkins discusses . . . . . .

THE PATTERN OF PRICES

One calling himself " Satisfied Member " revealed in the September Bulletin (p. 299) an increased price per pound for his mushrooms produced in the period April/July inclusive this year compared with last year. It gave rise to two thoughts: (*a*) Was this generally so, since my own experience was different? (*b*) Even if general, is it wise to attribute the improvement to our publicity campaign?

Don't think me critical of the publicity efforts which have been made and are continuing; I regard them as quite first-rate, and they **must** be doing good. Unfortunately it is not possible to measure the amount of good done and its influence on prices. There is no *control* in the experimental sense; we don't know what prices would have been were there no publicity campaign.

The danger in attributing a spell of higher prices to propaganda, as I see it, is that a subsequent run of lower prices ought in fairness to be blamed on some failing of the propagandists. If we agree that August's higher returns were due to the steady increase in the number of references to mushrooms in the women's journals, for example, how can we account for the startling slump in September's prices?

Since I am allowing Satisfied Reader his point about the April/July prices, I hope he will allow me mine about September's. I found that prices during his period were a penny down on last year; in September they were 5d. down. What we do not know is how much lower they would have been but for the valiant efforts of the MGA Publicity Committee. (At the time of writing, October's figures are not available, but they are substantially better than September's, fortunately following the trend of previous years.)

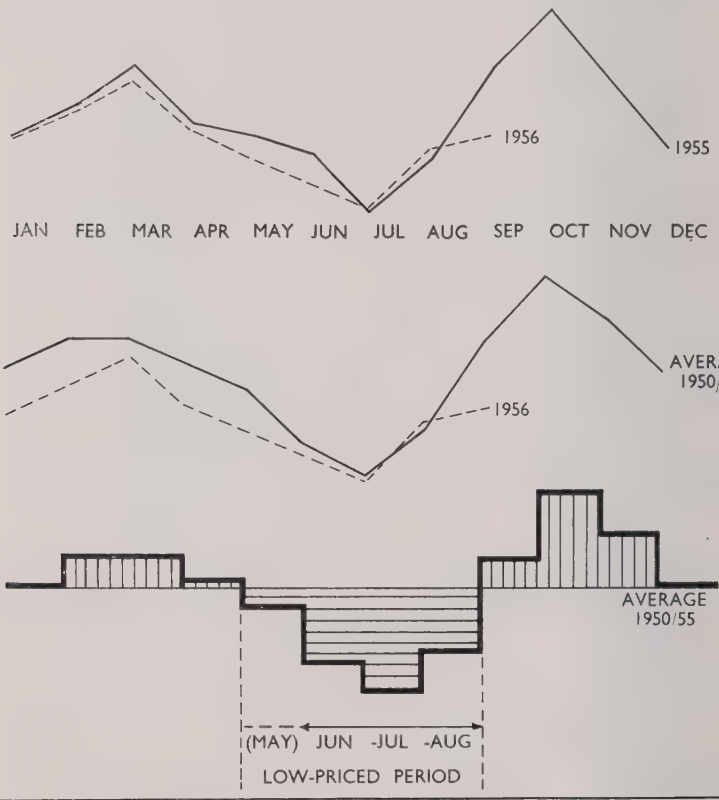
My graphs show the average price patterns at ten wholesale markets receiving daily from Noble Mushrooms Ltd. The first graph compares this year with last; the second shows this year against the general pattern of the past six years.

The bottom picture, drawn in a manner which does not appeal to me but which some find clearer, emphasises the low price period of June/August, including May as often as not. During these months, prices are below average, and it might be useful to look for the reasons. The usual " People don't eat mushrooms in hot weather " is given some point by a comparison between 1955's hot-July-and-August prices and those during this year's cold, damp summer. But since we cannot alter the weather, and since there is *always* this slump in summer, would it not be worthwhile to step-up the propaganda in these months and stress the delights of raw mushrooms in salads?

Though not really relevant to this note, I feel we should congratulate the American on starting a serious investigation into the causes of discolouration during transit from farm to shop. The mushrooms the housewife buys often bear little resemblance to those we pick.

One of the several advantages of the Continental practice of leaving the stems untrimmed is that the mushrooms remain fresh longer, and it could be argued that the contemporary craze for hygiene has sadly

reduced the " keeping qualities " of the mushroom. Removing the butt is understandable, but what I find incomprehensible is the market demand that we trim the stem at the annulus. These off-cuts are edible and in demand; I recently had a request for 2,000 lb. daily. Talk about cutting off our stalks to spite our pockets!



CHEMICAL SOIL STERILIZATION

The Murphy Chemical Company have just issued a new leaflet on the Chemical Sterilization of glasshouse soils. The leaflet lists a number of effective general soil sterilizers such as NOVO, E.C.A. and Formaldehyde, and gives directions for the treatment of soil in glasshouses, pots and boxes and for potting soil. Advice is also given on the washing down of glasshouses and mushroom houses, and recommendations made for the control of Root-Knot Eelworm on tomatoes.

Copies of the leaflet may be obtained free of charge on application to the Murphy Chemical Company, Wheathampstead, Herts.

IMPRESSIONS OF A BELGIUM FARM

with some notes on HOLLAND

By Major A. L. A. DREDGE

On 26th September, whilst on a visit with P.P.D.A. and C.H.E.L. to Belgium and Holland, we were staying at the Metropole, Brussels. So was Dr. Adenauer, the West German Prime Minister.

As Dr. Adenauer left the building, surrounded by a crowd of secretaries and Belgian officials, M. Guy de Man, the well-known Belgian mushroom grower and spawn maker, arrived. Mr. Young (the Chairman of P.P.D.A.) and I piled into the front seat of M. de Man's diesel Mercedes Benz and set off at a brisk pace for Canne on the Dutch Border. The " boot " contained a large barrel of oil and the back was full of Sobexas Spawn!

Our first halt, some 3 kilometres short of Canne, was at a cold storage house belonging to " Lutèce Champignons " owned by S.N.C. Vercruysse Frères, where we found that 80% of the total output of Belgian mushrooms is handled by this firm, who have several cold storage depots at various central points in the country. Mushrooms are collected from the caves, etc., by lorries three times a day and are put into cold storage. From there they are loaded into smart Bedford vans, which have a very attractive advertisement showing three mushrooms and a Walt Disney gnome on the outside. All mushrooms are packed into two kilo returnable wooden crates.

We then set off for Canne and it was interesting and somewhat sad to see the enormous number of new houses in a nearby village named Eben-Emael, which had almost been obliterated by the Germans in the last war. The church and school have been left as a warning to future generations of the folly of war. A very fine memorial has been erected in memory of the Grenadier Guards who lost their lives defending the bridge over the Albert Canal a little further on at Canne.

After lunch at the famous Chateau de Neder, Canne, which is half in Holland and half in Belgium, we drove to M. de Man's mushroom caves. The main passageway extends for some $7\frac{1}{2}$ miles, and the limestone which was originally removed by the Romans, was later used for building. Our first stop was at the end of a gallery where an old man was cutting out sandstone with an implement resembling a large spatula. The sandstone is very soft and with very little effort the man removed a block of about $1' \times 1' \times 2'$. When the sandstone is exposed to weathering it becomes very hard.

Entrance to the caves of M. de Man

Our next stop was at the composting gallery where the only light is

provided by small carbide lamps. Horse manure is used as a basis and turning is done by hand or machine in much the same way as in our country, though normally the four turns are carried out at shorter intervals than in England. At the first turn 6½ lb. of ammonium sulphate per ton is added and at the third turn, approximately 30 lb. gypsum and 6½ lb. superphosphate are mixed with the compost.

The compost remains very damp, since the humidity in the caves is almost at saturation point. When completely composted, the trays are stacked on to trolleys behind small trailers or motor jeeps and taken to the entrance of the big peak-heating room. The picture shows the final stage when the trays are about to be peak-heated. Peak heating is carried out for 24 to 36 hours at a temperature of approximately 135° F. Heating is carried out by means of oil-burners, using gas-oil. After a period of 2½ weeks the trays are cased with a mixture of 75% lime soil, 15% peat and 10% coal ash. Although the caves seemed reasonably fresh, there is no doubt that the mushrooms do not receive the same amount of ventilation as they do in this country, and this probably accounts for the somewhat smaller cropping average.

We then visited a couple of large growing houses containing some 4,000 to 5,000 trays. These are constructed in much the same way as they are at home. The temperature may drop to 48°—50° F. in the winter, and if so the trays are left longer, to crop for an extra two or three weeks.

When a grower wishes to enlarge his " farm " he merely puts up a large corrugated iron door in a new gallery which runs off the main passageway throughout the caves.

The final stage before peak heat

The mushrooms are picked as buttons direct into the 4½ lb. crates supplied by the wholesale firm.

Economics

The grower is paid 2/6 per lb. for the best quality mushrooms and 1/- or 1/6 for inferior grades. This seems to be an excellent form of disposal from the growers' point of view, since there are no packing expenses. If the same system were introduced into this country, our growers would probably insist on fumigating the boxes before refilling since they might carry disease from another grower. At the present stage no precautions are taken in Belgium and the boxes are burnt when they become unserviceable.

Holland

Unfortunately we had no chance of visiting a mushroom farm in

Holland. We did, however, look round two of the largest wholesale markets in the country at Rotterdam and Amsterdam. In Holland, horticultural produce with the exception of a few items such as mushrooms, must be sold direct by auction at the Central Market. Naturally I asked the manager of the firm taking us round if he could show me some mushrooms; he could only find one box and by the time he had called me, these had been taken away from the market. It was with great difficulty that we traced one more crate in a retailer's car waiting to be taken to Rotterdam. The mushrooms were medium sized buttons and not of the same high quality as those in England.

During the four days I spent in Holland, I looked in many retail shops for mushrooms but unfortunately found none. Neither did I eat mushrooms with any single meal during this time. It was not until the end of my visit that I discovered the reason—that the Dutch do not like mushrooms in this area and in fact some 600 tons are exported to Belgium annually. They are only available in any large quantities in the months of July and August, when the seaside resorts are full of foreign visitors.

Although many vegetables are prepacked in very attractive packages in Belgium and Holland, neither country has yet started prepacking mushrooms.

"TERRACLOR" CONTROLS MILDEW ON MUSHROOMS, AND ALSO THE "LIPSTICK" MOULD, *GEOTRICHUM SP.*

Professor Robert N. Goodman of the University of Missouri, Columbia, Missouri, U.S.A., in a publication in the *Plant Disease Reporter* for 15th August, 1956, states that he has confirmed the results of Stoller *et al.* (MGA Bulletin, October, 1956), on the use of Terraclor to control the mushroom mildew, *Dactylium dendroides.*

In his summary, Prof. Goodman states as follows:

> "Terraclor at either 500 or 1,000 ppm proved highly effective in controlling 'mildew.' In addition, this material was found to be equally effective against 'lipstick' mould, *Geotrichum* sp."

Prof. Goodman's report is especially important since it provides experimental evidence for control of the "lipstick" mould by the use of Terraclor. (Previous report on control with Terraclor was restricted to mildew, since no "lipstick" mould was prevalent).

He also reports that "no phytotoxicity" (that is, no injury to mushrooms or crop) was observed when employing Terraclor at either 500 or 1,000 ppm, and he confirms too that chlorine was ineffective in controlling either mould. B. B. STOLLER.

SPEAKING AT EASTBOURNE

Pictured herewith is **Mr. F. W. Toovey,** O.B.E., who has succeeded Dr. Bewley as Director of the Glasshouse Crops Research Institute at Rustington, Littlehampton, and who is to give a talk at Eastbourne on the occasion of the Mushroom Industry Exhibition. He will speak about mushroom research and the important questionnaire which is included in this *Bulletin.*

Mr. Toovey graduated from the Imperial College of Science and Technology, London, where he gained the Forbes Medal and Prize. After post-graduate work at Cambridge and in Trinidad, he was appointed, in 1935, to the Nigerian Agricultural Department, where he devoted the main part of his activities to the oil palm crop about which little was known although the Belgians had done some fine work and given a much-needed lead in this particular sphere. Mr. Toovey was in the Belgian Congo in 1938, studying oil palm research and later he was closely concerned in the development of the Oil Palm Research Station of the Nigerian Agricultural Department. This station covered some 4,000 acres of undeveloped tropical forest and eventually, mainly under his direction, the station became the main oil palm research station in Nigeria. In 1952 the station assumed responsibility for research in all British West African territories being known as the British West African Institute for Oil Palm Research. Mr. Toovey was its first director and, for his services, was made O.B.E. in the New Year's Honours List of 1955.

Also speaking at Eastbourne is **Mr. C. R. Rasmussen,** 32 year old Director of mushroom research in Denmark. He was appointed Technical Director to the Mushroom Research Station, Copenhagen, in 1952. In addition to Denmark he has studied mushroom problems in Holland, America and England. He is to talk on a subject close to every mushroom grower's heart—The Improvement of Composts.

Third speaker at Eastbourne is **Mr. J. Stewart-Wood,** a picture of whom appears, together with a description of his farms, on page 364.

THOUGHTS ON CROPPING

"O Tempora! O Mores!" *

Cicero *might* have been declaiming at a Farm Walk, instead of denouncing the the Cataline conspiracy! What times indeed—a mushroom grower's life is nothing but a protracted schedule. He composts in 10 or 20 days, he pasteurises for 2 days. He crops for 6 weeks or 16—and when it comes to testimonials for 100% Productive Spawn, then it's 1 lb. in so many days or 3 lb. in ten weeks!

And—talking of customs—Cicero might well find some odd ways of doing the job, that have been handed down from father to son since Roman times. Every grower has his own ideas about the right way to cultivate mushrooms!

In searching for something enduring in those troubled times, how Cicero would have longed for a bedrock like 100% Spawn. At least growers to-day have *that* to fall back on, as the world appears to tumble about *their* ears!

* *What times! What customs!*

FOR ALL METHODS OF GROWING

DARLINGTON'S 100%

PRODUCTIVE, PURE CULTURE
MUSHROOM SPAWN
Gives the best results!

IMPORTANT QUESTIONNAIRE

Littlehampton seeks our Co-operation

Grower Members of the MGA will find in this Bulletin a very important Questionnaire. The Executive Committee urges them to complete it as soon as possible, and then post it to the Director, Glasshouse Crops Research Institute, Worthing Road, Rustington, Littlehampton, Sussex.

Why is it " very important "? **Mr. F. W. Toovey** has just succeeded Dr. W. F. Bewley as Director of Research, and he and his Staff feel it is essential to re-assess the problems facing the Mushroom Industry to-day.

Great care has been taken in drafting the questions. " We have tried to make the form as simple as possible," says Mr. Toovey, " as if we are to secure their full co-operation we must not put the growers to any more trouble than is necessary."

The main object of the Questionnaire is to draw the Institute's attention to the more important problems requiring study and to suggest any linkages there may be with cultural practice. The Institute is also particularly anxious to find out where the important diseases and pests occur so that it can, if necessary, go and study them on the spot and collect material.

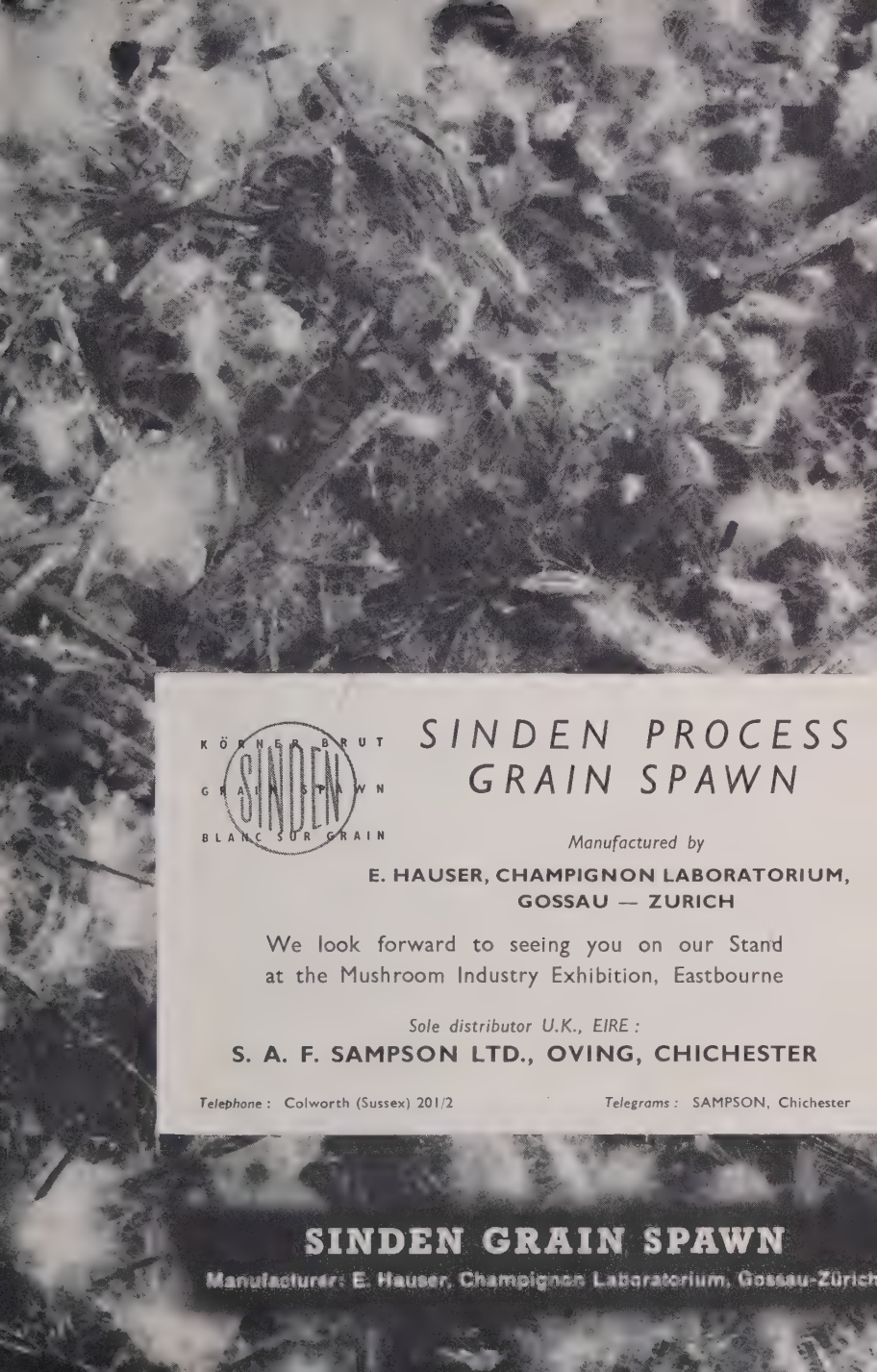
Mr. Toovey writes: " We should like it to be stressed that we shall be very grateful for the co-operation of growers in this matter, and they may rest assured that although it will undoubtedly put them to a certain amount of trouble **it will make a very useful contribution to our research effort** and will therefore serve the cause of a very important section of the horticultural industry. We fully appreciate there may be questions that the growers find themselves unable or unwilling to answer, but this should not deter them from answering the rest and sending in the form.

" If there are any particular difficulties in completing it we shall be pleased to help. *The form should be returned direct to us, and we shall treat all replies as strictly confidential.*"

ACTIVATOR FIRM EXPANDING

Shirley Organics Ltd., of Battersea, S.W.11, are constructing a new works at Rickmansworth, Herts., for the production of their well-known Activator " M."

Mr. V. L. Barrow, Managing Director, said, " The new works will include the very latest pneumatic equipment, mixing, weighing and sewing machinery. The time study shows that we shall be able to turn out each hour what it now takes the best part of a day to do. This increased production is necessary as we already have orders on hand for deliveries between now and next Spring which are greater than our sales during the same period last year."



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MY WAY OF GROWING . . . . . .

AYLESBURY MUSHROOMS LTD.

Rightly, Mr. J. Stewart-Wood, of Aylesbury Mushrooms Ltd., Ford, near Aylesbury, is regarded as one of the foremost and most progressive tray system growers in this country and there is no doubt that he will be listened to with particular interest at the Annual Mushroom Industry Exhibition at Eastbourne this month, when he will talk on " Farm Mechanisation."

Mr. Stewart-Wood, former Chairman of both the MGA and member of the Mushroom Research Association Board, started growing in 1934—in a cellar *and in trays.* That makes him one of the earliest tray growers and, for good measure, he installed oil firing at his Aylesbury plant way back in 1947, with thermostatic control.

Things have moved rather quickly with Mr. Stewart-Wood, which is not surprising at all to those who know him intimately. Now, at Aylesbury, he has some 22,000 sq. ft. of basic tray growing area, whilst at Elmwood, Black Bourton, in the neighbouring county of Oxford and 40 miles away, he now has a further 24,000 sq. ft. of trays.

At first glance it may seem that two farms, 40 miles from each other, would present some difficulty from the point of view of travelling, among others, but Mr. Stewart-Wood solves this by the use of an Auster plane having started flying in 1938. He is an experienced pilot, was in the R.A.F. during the Second World War, first as an operational pilot, later a flying instructor and finally a test pilot. By one of those strange coincidences, his Flight Commander at one station was Mr. Campbell Melville of Fala, Errol, Perthshire, now a member of the MGA Executive Committee.

At Aylesbury synthetic compost is used, to the MRA formula, but some stable manure is used " to assist with the heating." Composting is completely in the open with the water added at stacking. This operation offers something a little new in that the stack is spread about a foot thick and the water is then added. This goes on until the required amount of compost material is finally added. The first turn takes place after two days, the second four days later, the third, four days after that, and the fourth and final turn after a further three days, with filling the following day. The compost is turned with

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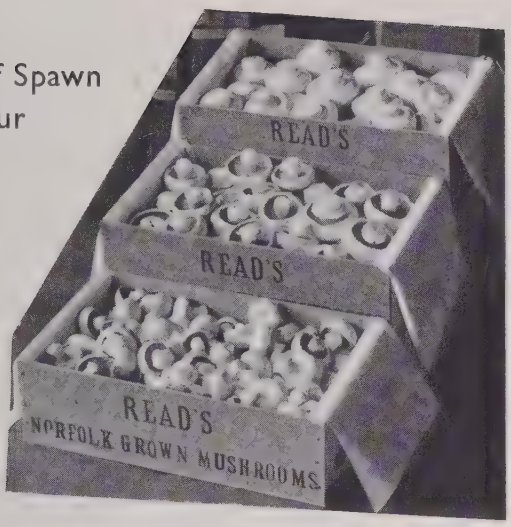
consideration



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a Salopian (converted) Manure Turner fed by a fork lift tractor. Peak heating in special rooms, where spawn running can also take place, is with live steam and forced air circulation. Mr. Stewart-Wood regards the latter operation as of supreme importance. Grain spawn is used when the compost drops to 74° F. and provided the spawn run is satisfactory, casing takes place 12 days after spawning. Casing is with peat and chalk in equal parts volume. A growing temperature of 60° F. is maintained.

At Black Bourton poultry manure is added to the compost but at no higher rate than one part poultry manure to five parts horse manure. In making up his synthetic compost Mr. Stewart-Wood uses either wheat or barley straw and says, " I find little or no difficulty with the barley straw."

Picking takes place about 32 days after spawning, five crops are taken a year with an average of $1\frac{1}{4}$ lb. per sq. ft.

At Aylesbury the growing houses are the orthodox type in general use, but at Black Bourton the existing Cotswold stone farm buildings have been converted into units of 5,000 sq. ft. each. The stone walls, 18 inches thick, provide excellent insulation.

As far as possible nothing is left to chance and at the Black Bourton plant heating and ventilation is through an air circulating plant with extractor fans in use. All the fresh air passes through an air washer which purifies and humidifies. Re-circulation of the air depends on the state of the crop.

Mr. Stewart-Wood places the highest possible value on the use of a small (but expensive) fork lift truck for tray moving, for this truck, operated by one man, will move all the trays necessary for a 5,000 sq. ft. unit, twice in one day if necessary. Double stacking is, of course, a routine matter. Trays in general use measure $2' \times 3'$ and are $5''$ deep with $4''$ of compost.

Does peak heating control eelworms? " Yes," says Mr. Stewart-Wood, adding " provided there is adequate air circulation which ensures that all the compost is subject to the maximum temperature."

A spacious refrigerator is regarded by Mr. Stewart-Wood as an essential part of a modern mushroom farm equipment.

Mr. Stewart-Wood does not confine his activities solely to mushroom growing. He farms, in all, some 300 acres of land, 70 of which are at Aylesbury. In addition to corn growing (he installed a grain drier this year) he has some 200 sheep and 60 pigs and this year has raised 2,000 turkeys.

MOUNT MUSHROOM SPAWN

Gore Lane, Gorefield,
Nr. Wisbech, Cambs.

J. E. R. Simons Ltd.,
Harlow,
Essex.

8th August, 1956.

Dear Sirs,

Please find enclosed photograph of mushroom crop, also record card to date 31.7.56. The area of sq. ft. being 1,800, you can see it has produced over 2 lbs. per square foot in 30 days. The quality of mushroom has been extremely good, and I can assure you that no mushroom has been cut with any long stalks to make weight.

Yours faithfully,

Sgd. W. Sleight.

RELY ON —— THE BEST

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STANLEY MIDDLEBROOK'S

PINHEADS

141. Did you know, fellow mushroom growers, that 450 of us are to meet at Eastbourne to decide the effect of the moon upon a mushroom? According to the *London Evening News* (9th October), which was ably briefed by our own Guy Reed, we are very much in the dark about mushrooms and must very seriously consider the possible effects of the light of the moon. *Speak for yourself, Guy: most of us have grown up. Surely you don't really believe that a mushroom pops up in a field overnight because "moonlight has a wonderful effect on it!" Relieve our tortured minds, Guy, by telling us you're not moonstruck but misquoted.*

142. I shall most certainly go to Eastbourne if my stars and the Sussex moon permit. I shall want to see George Baker fight for his Cups while many of my friends in despair sink into theirs (small "c"). I shall want to see all the spawn makers in a corner-huddle deciding whose shall be the "Spawn of the Year." I shall want to see if the enlarged Hawkomatic composting machine will make me change my whole composting system. I shall want to see how mushrooms should be graded and packed, but I hope never will at Brayton! I shall look for that man—what's his name?—who thinks that anything under 5 lb. per sq. ft. on 4" trays is just not quite the thing. I shall want to see Conny Rasmussen and hear his lecture: he is, in my opinion, one of the most practical-minded and down-to-earth scientists of our day. I shall hope to hear from Mr. Toovey something encouraging about the projected Littlehampton Research. I shall look out for the ever-cheerful, ever-encouraging smile of Guy de Man—always worth a long-distance trip—and I am not without hope this year of studying the trend in umbrellas and cigars as worn by Dr. Bels. I shall want to examine the latest in highly-ornamented publicity waistcoats displayed by one or two of our more elegant growers. I shall want to find if in extenuating circumstances I can avoid talking about mushrooms for two whole days. I shall, in short, want to know what the Industry is doing, talking about, thinking. I would like to know, too, something of its current taste in food. But above all I want to have an *early* inspection of the inside of the Baker (?) Cup.

143. If Prof. Pholi has the courage to come out into the open I'll deal with sundry misrepresentations in his letter. If he hasn't, well, anonymity is best ignored.

144. Spawn runs seem to get quicker and quicker: at any rate this is happening here with the spawn we use. If we agree with Dr. Edwards —as I believe we must (O, pholi, pholi!)—that there is an ideal time for casing we are beset with a mounting difficulty. With runs of 21 days or so a day or two either way might not matter too much, but when a compost is completely surface run in 7—10 days it may mean that half a day or even perhaps an hour or two too early or too late would appreciably affect the crop. There may be a precise moment in this accelerated activity when one process should be stopped and

another started. Work ought to be done on this problem of course, but nothing seems to have happened since Edwards made his prophetic pronouncement. (Remember Pinhead 133 and "*lack* of progress?")

145. Peat is undoubtedly a tricky material. It can hold too much water with disastrous results in a humid season, and it can't hold enough for long enough in dry (e.g., frosty) weather. We at Brayton believe there is an advantage in steaming it (on the evidence of several commercial-scale tests) but we are beginning to form an impression (without test evidence) that there can be a great danger of over- steaming it. Some peats, too, may have been dug too wet or too dry, dug from different depths, etc. And what of near-surface peat? Has it ever been contaminated by drainage or water-logging or oil from mechanical equipment?

146. The idea has been mooted that we should have a monthly Digest of all information published on mushrooms. Most of us haven't the money to buy or the time to read all the Trade and Technical Journals that deal directly or indirectly with mushrooms and we undoubtedly miss much of value. Such information, from whatever source or country, could be Digested for us regularly by someone of well-balanced, analytical and dispassionate mind—Dr. Edwards' name has been rightly mentioned in this context—and included in our Bulletin, but it would cost money. I gather some people have gone so far as to say they would be willing to pay anything from £10—£20 for some such service if it had to be run independently of the MGA. I don't think I would go that far, but I would willingly double or more than double my MGA subscription (little enough anyway at present) to have this service added to that already available. Would *you?*

147. With Fred. C. Atkins and Raymond Thompson (MGA Exec. Research Sub-committee members) I have just seen the very promising start made on mushrooms at Yorkshire's Stockbridge Experimental Station at Cawood (pronounced KAYwood). The preliminary try-out (with MRA synthetic, two spawn and ground beds) is aimed solely at acquiring some elementary know-how. I gather the enthusiasm of the whole staff at Cawood—from the Director down to the pot-boy—is of a high order. I personally don't mind (though some might!) if this enthusiasm leads them to push tomatoes, rhubarb, lettuce and the inevitable cabbage into the background and allows a very rapid build-up of highly concentrated mushroom experimentation. We need it, and by Jingo! we deserve it. I am naturally proud to know that Yorkshire once again leads the way with the first tangible and purposeful manifestation of work which we hope will be set in motion throughout the country before long.

148. Why do we use a casing medium? What is the function of a casing? Science has no answer—yet, but the following illustration might provide a clue. A man bought a mule and took it to a trainer. The trainer took up a stout staff and struck the mule a resounding blow on one side of the head. He followed this with an equally shocking blow on the other side. " Why " asked the owner " do you thus strike my animal?" " Because " said the trainer " you can't do anything with a mule until you've first made it pay attention."

OXTED FARM WALK

The attendance of about 240 people was evidence enough of the particular interest taken in the MGA farm walk held on Saturday, 13th October, at the Broadham Produce Co.'s farm at Oxted, Surrey, which is owned by the MGA Chairman, Mr. G. W. Baker, in partnership with Mr. A. D. Jones.

This farm, with its interesting combination of the tray system of handling with the shelf system of growing—there is only one house devoted to tray growing pure and simple—is one of the most compact mushrooms farms in the country and this, with the picturesque setting coupled with a really fine and sunny day, made the occasion most enjoyable and interesting.

The problems of handling such a large gathering were overcome without difficulty, those present being divided into five parties. Among the visitors was Mr. W. L. Chamberlin, of Billingshurst, Sussex, former owner of this farm and who, as far back as 1936, was tray growing at Oxted.

Mr. G. W. Baker outlined the history of the farm and the methods of growing, with horse manure as the compost basis. He explained the working of the " laundry " in which all boards are boiled in cresylic acid. The inspection included the soil house with the soil breaking machine in operation, the boiler room with its oil firing, the huge composting shed where the new and larger Culverwell Turner was at work, and the peak heat rooms and growing houses. Spawn running takes place in the peak heating rooms. Mr. G. V. Allen (Vice-Chairman) had a word to say about publicity.

Finally there was a visit to the packing room where particular interest was taken in the production chart compiled from the growing charts in each house.

Afterwards, Mr. A. D. Jones answered many questions on the working of the farm.

The evening session was at The Hoskins Arms Hotel, where about 200 people had tea.

The " Brains Trust " was presided over by Mr. G. W. Baker, who had with him:—Messrs. A. J. Berry (Ruislip), Clifford King (Woking), R. G. Darlington (W. Darlington & Sons Ltd., Worthing), Eric White (Coleraine), R. H. Pinkerton (Rayleigh) and Dr. R. L. Edwards (South Luffenham).

The question which set the ball well and truly rolling was " Does peak heating kill eelworm." Dr. Edwards said, " the books " agreed that 130° F. would kill eelworm but this conclusion was based on experiments in a controlled environment with all the compost reaching this temperature—and this did not happen on the average farm. Mr. King said he peak heated to 140° F. and had experienced no trouble for the last two years. Mr. Darlington said Dr. Edwards had hit the nail on the head. It was a question of getting the compost to heat evenly all through. Cold spots left provided conditions where anything could survive.

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Mr. Baker took the opposite view stating that, in his opinion, eelworm could survive the peak heat. He felt that a carry over was the great danger. "They build up tremendously quickly," he said, adding, "This attack of ours came overnight." He was quite certain that the casing soil was not to blame. Mr. Pinkerton observed that peak heat "certainly cured us of it."

There were questions about the time to case, Mr. Pinkerton stating, "I think a good spawn run before casing is most important, especially with trays." The suggested addition of superphosphate to improve crops brought this reply, "It was recommended at one time, especially in glasshouses, but it worked only sometimes."

Afterwards, Mr. Baker and Mr. Jones were cordially thanked for their hospitality, on the proposition of Mr. Allen.

Among the visitors on the occasion of this farm walk was Mr. C. E. Hudson, Head of the Horticultural Division of the National Agricultural Advisory Service.

HEAT—SOME FACTS AND FIGURES

The table below gives the costs for producing one million British Thermal Units per hour with labour and economy adjustments but the figures do not include capital charges.

Coal, mechanically fired	70.8d.
Oil, 3,000 sec.	79.1d.
Oil, 950 sec.	84.5d.
Anthracite, automatic boiler	101.0d.
Coal, hand-fired (large plant)	86.3d.
Oil, 200 sec.	95.2d.
Coke, mechanically fired	107.3d.
Coal, hand-fired (small plant)	118.4d.
Gas oil, 35 sec.	122.5d.
Anthracite, hand-fired	133.3d.
Coke, hand-fired	156.2d.
Electricity, off peak load	224.2d.
Gas boiler	225.0d.
Electricity, standard tariff	366.0d.

According to Mr. F. Dean, B.Sc., of the National Industrial Fuel Efficiency Service, underfeed stokers burning bituminous fuels are the cheapest, but there are disadvantages. The stokers are rather selective on fuel and cannot normally be applied to sectional boilers.

The down-jet burner is now commercially available. It is extremely efficient but can only burn graded coke. There are other gravity feed boilers, but the smaller sizes only burn anthracite grains, which is expensive. The efficiency claimed is very high.

The main advantages of oil are the saving of labour costs, cleanliness, ease of storage, consistent quality and ease of control. For running costs it obviously pays to burn as heavy a grade of fuel as possible, but as the oil becomes heavier so the usage becomes more complex, and the minimum size of boiler which can be converted becomes larger.

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STAND 18

QUEEN MOTHER OPENS AGRICULTURE HOUSE

The Queen Mother, with Sir James Turner on her left, is given a great send off by members of the NFU staff, after the official opening

Thursday, October 18th, was a great occasion for the National Farmers' Union for the new Knightsbridge Headquarters of the NFU was officially opened by Queen Elizabeth, the Queen Mother.

The Queen Mother was welcomed by the President of the Union, Sir James Turner, who rightly said, "If there were room enough and if the work of the fields could be abandoned for just one day, every single one of them (of the Union's 200,000 members, their wives and families) would wish to be here to greet you this afternoon."

This opening ceremony took place in the new Council Chamber at Agriculture House where members of the Council had assembled.

Those present included Mr. H. Woolley (Deputy President), Mr. L. M. Du Pre (Vice-President), and Mr. S. O. Ratcliff (Honorary Treasurer) with the General Secretary, Mr. J. K. Knowles, C.B.E., all officers of the NFU together with members of the Council, members of the staff who acted as stewards, and guests.

Included in the latter were:—Mr. D. Heathcoat Amory (Minister of Agriculture), past Ministers including Mr. Tom Williams and Viscount Hudson, Mr. E. G. Gooch (President of the National Union of Agricultural Workers) and Viscount Bledisloe for whom the President of the Union had a special word of welcome.

Among the guests also was Mr. G. W. Baker, Chairman of the MGA.

The Queen Mother, in declaring Agriculture House open, said the special beauty of the countryside should be one of our most treasured assets, and it behoved all to do what they could to ensure that good

farming and good looks could go hand in hand. Later Her Majesty added, " New machines and new methods have brought new sights and sounds to the familiar fields of our youth . . . . . But there is no doubt that modern techniques are adding to the efficiency of the industry, and for that we should all be grateful."

After The Queen Mother had unveiled a plaque commemorating this great occasion Sir James Turner presented Her Majesty with a silver gilt William IV wager cup.

Later Her Majesty toured parts of the building and was presented with a bouquet by a member of the staff, Miss Joan Hannan.

From time to time The Queen Mother, in a delighfully informal manner, stopped and talked to members of the staff, and to various guests when she eventually reached the long gallery for tea.

Agriculture House, which now ensures that the whole of the NFU staff is under one roof, cost £500,000 to build.

Dr. John Ramsbottom . . . . . .

JOINS DARLINGTONS OF WORTHING

Dr. John Ramsbottom, O.B.E., M.A., F.L.S., V.M.H., has recently accepted the appointment of General Consultant on Scientific Matters to Messrs. W. Darlington & Sons Ltd.

Dr. Ramsbottom graduated at Cambridge in 1909, and after a year at Victoria University, Manchester, entered the Department of Botany at the British Museum, in charge of Fungi. During the First World War he was commissioned, and served with distinction in Greece. He was mentioned in dispatches three times and was awarded the M.B.E. in 1918, and O.B.E. in 1919.

Returning to the British Museum, Dr. Ramsbottom was promoted to Deputy Keeper in 1928, later to become Keeper of Botany, a position he held for twenty years.

Among the honours that have fallen to him are the Victoria Medal of Honour of the R.H.S., the Dean Hole Medal of the Rose Society, Honorary Membership of the Swiss Academy of Sciences, and the Mycological Society of France. For his work in the protection of nature he has been awarded the Grande Medaille Geoffroy-St. Hilaire.

For his pre-eminence in the field of systematic botany and, particularly, for his encouragement of the study of taxonomic botany in the Portugese African possessions, Dr. Ramsbottom was awarded the honorary degree of Doctor of Science at Coimbra University.

Dr. Ramsbottom has been an office bearer in nearly all the scientific societies connected with his work. He was Botanical Secretary of the Linnean Society from 1923 to 1935, and President from 1938 to 1941. He was President of the British Mycological Society in 1924 and 1946.

His most recent work was his book " Mushrooms and Toadstools " in The New Naturalist series. In recent years the exhibit of colour plates and specimens of edible fungi he has arranged at the shows of the Royal Horticultural Society has attracted much attention.

THIS PUBLICITY BUSINESS concerns YOU

Each month a list appears of those people who have supported the MGA's Publicity Scheme. There is something you can do to make this acknowledgment even more tangible.

If you want to try out a new market, if you want to give a new salesman a run, look down the list below and send your consignments to those who support this publicity bid of ours. By so doing you will help, not only them, but yourself at the same time. Not only does this apply to salesmen but to others in the industry who, by their contributions, enable some publicity to be given to the cultivated mushroom.

	£	s.	d.
Wm. Artindale & Son Ltd., Salesmen, Castlefolds Market, Sheffield	38	9	0
A. Phippen (Brentford) Ltd., Salesmen, Brentford	5	0	0
H. G. Walker Ltd., Salesmen, Covent Garden Market, W.C.2	10	10	0
Shirley Organics Ltd., Activators, Battersea, London, S.W.11	25	0	0
G. E. Leatherland Ltd., Salesmen, Newcastle-on-Tyne	57	6	0
T. J. Poupart Ltd., Salesmen, Covent Garden, W.C.2	100	0	0
Francis Nicholls Ltd., Salesmen, Smithfield Market, Birmingham	157	10	0
Marks & Co. Ltd., Salesmen, Covent Garden Market, W.C.2	2	2	0
Geo. Jackson & Co. Ltd., Salesmen, Smithfield Market, Birmingham	5	5	0
Thomas Elliott Ltd, Sundries, New Church Road, London, S.E.5	10	10	0
C. H. Deakin Ltd., Salesmen, Smithfield Market, Manchester	10	10	0
H. Dowson & Co. Ltd., Salesmen, Newcastle-on-Tyne	1	1	0
J. W. Laws Ltd., Salesmen, Newcastle-on-Tyne	2	0	0
Dan Wuille & Co. Ltd., Salesmen, Covent Garden Market, W.C.2	50	0	0
J. Collingridge & Co. Ltd., Salesmen, Covent Garden Market, W.C.2	25	0	0
R. E. Jenkinson Ltd., Salesmen, Covent Garden Market, W.C.2	105	0	0
Ed. H. Lewis & Sons Ltd., Salesmen, Covent Garden Market, W.C.2	5	5	0
P. C. Brown, Biddulph, Stoke-on-Trent	8	6	8
J. N. Proctor, Minskip, York	5	16	0
R. J. McBriar, Overdale, Saintfield, Belfast	5	5	0
N. Olverson, Scarisbrick, Nr. Ormskirk, Lancs.	5	0	0
Stable Manures Ltd., Newmarket and Worthing	30	15	9
J. Jones & Sons, Salesmen, North Market, Liverpool	3	3	0
C. Snowdon & Co. Ltd., Salesmen, Castlefolds Market, Sheffield	22	5	2
*W. Darlington & Sons Ltd., Spawn Merchants, Worthing			
*Farmers & Growers Industries Ltd., Spawn Merchants, Worthing			
*Geo. Monro Ltd., Spawn Merchants, Waltham Cross			
*H. Mount & Sons Ltd., Spawn Merchants, Littlebourne, Canterbury			
*J. E. R. Simons Ltd., Spawn Merchants, Harlow, Essex			
*S. A. F. Sampson Ltd., Spawn Merchant, Oving, Chichester			
*Pinkerton's Scottish Mushroom Laboratories, Spawn Merchants, Millerston, Glasgow			
W. Thew, Beckside North, Beverley, Yorkshire	1	15	4
*Godson & Mallard Ltd., Sundriesmen, Ferringham Lane, Ferring, Sussex			
Somers & Gibson Ltd., Salesmen, Smithfield Market, Mancheseter 4	26	5	0
Reuben Levy Ltd., Salesmen, Spitalfields Market, London, E.1	3	1	2
Walter Lund Ltd., Salesmen, Kirkgate Market, Leeds	5	0	0
Langford Nursery, Clymping, Littlehampton, Sussex	2	12	6
Broome & Green (London) Ltd., Salesmen, 27 James Street, Covent Garden, W.C.1	105	0	0
The Cowling Group, Salesmen, Kirkgate Market, Leeds	10	0	0
Dr. Rempe, Essen-Bredeney, Germany	1	13	8

LATEST PUBLICITY CONTRIBUTIONS—OCTOBER

Bradford Fertilizer Co. Ltd., Girlington, Bradford, Yorks., Activator Merchants	25	0	0
Jackson & Lakin Ltd., Wholesale Market, Nottingham, Salesmen	1	13	0
*†H. Mount & Sons Ltd., Littlebourne, Canterbury, Spawn Merchants.			

*The amounts collected by Spawn Merchants are not for publication.

†Previous contributions already acknowledged.

PUBLICITY PAYS

T. J. Rudkin provides some statistics . . .

For some time now I have had the feeling that the MGA is a little out-of-balance in its attitude to the two vital problems of Production and Publicity. For example, much concerning the former is expressed in statistical terms (e.g., weight of crop per square foot, degree of acidity/alkalinity, percentage of humidity, ratio of heat loss, etc., etc.), whilst statements concerning publicity, on the other hand, are invariably expressed in general terms.

I think the effect of this lack of balance in the presentation of aspects of publicity is that some growers do not fully realise the cash value of the efforts which the Publicity Sub-Committee had made and is making on their behalf.

It is my opinion (based on information available to me as head of a market research and survey organisation, as well as a grower) that the Publicity Sub-Committee has done a tremendous amount of work with the publicity levy of 2d. per carton of spawn and with the sums so generously donated by the merchants and manufacturers. I have therefore endeavoured to express the value of two or three instances of this work in statistical and technical terms, in order to bring the two matters of Publicity and Production on to a level footing.

On 9th October last, there appeared in the *LONDON EVENING NEWS* the latest effort by the Publicity Sub-Committee—a report of an interview with Mr. Guy Reed on the Eastbourne Conference. The article was entitled: "Mushroom Men Will Meet in the Moonlight." It was an interesting and informative article, and one likely to arouse considerable public interest. Here then are the statistics which show just what Mr. Guy Reed did achieve on behalf of MGA members.

LONDON EVENING NEWS:
Date of Issue: 9th October, 1956.
Size: $11\frac{1}{4}$ single column inches, including 2-column headline.
Equivalent Cost: If purchased as display advertising, £184.
Circulation: 1,513,000 copies.
Readership: 3,510,000 persons.
Analysis of Readership: Income Group AB 15·2%; C 20·9%; DE 65·9%.
Women Readers: 46·5%.

Modern practice in advertising and selling concerns a new development known as Public Relations. This development stems from the Government PRO's who were active during the last war. The practice of public relations is officially defined as " The deliberate, planned and sustained effort to establish and maintain mutual understanding between an organisation and its public."

The Publicity Sub-Committee has, in effect, performed a public relations job of considerable size, as witness the Press Conference at the Women's Press Club in London, on 30th May (attended by more tha 200 women journalists), the Visit to Oxted on 11th July (including the presence of M. André Simon, President of the Food and Wine

Society), and the 2-week sales promotion efforts by Selfridges of Oxford Street (which included a first-class and very prominent window display of mushrooms). These are the high-lights of course, and when combined with the Show activity, the distribution of leaflets and posters, references in commercial advertisements, Gas & Electricity Board Cookery Demonstrations, Olympia Food Fair, etc., etc., add up to a considerable amount of activity.

It is not possible to give an estimate, in cash terms, of the value of the impact of this public relations work, but the frequent references to mushrooms in recipes published in the Women's Magazines bear some testimony to this end. Yet it is possible to state that if the Publicity Sub-Committee had put this activity into the hands of some of the member firms of the Institute of Public Relations, the cost would have been an annual fee of between £1,500 and £3,000, plus the out-of-pocket costs of food, drink, transport, printing, etc., etc.

Subsequently, articles and recipes for cooking mushrooms appeared in the following magazines read by women. Please note the circulation figures:

	Circulation	
Woman's Own	2,435,000	
Home & Gardens	40,000	
Home Chat	239,000	
Home Companion	217,000	
Woman's Companion	207,000	
Woman's Illustrated	780,000	
Woman's Journal..	254,000	
Woman & Home..	841,000	
My Home	427,000	
Woman & Beauty	109,000	
	———	5,549,000

A measure of value of Television transmission can be obtained from the fact that the cost of 1 minute's showing on commercial television works out at about £1,000, depending upon the time of transmission. The audience reached of course runs into millions of people. Mushrooms have been on the air in sound radio, B.B.C. and I.T.A. programmes.

Whilst it is possible to give some statistics concerning the cash value of the publicity services received, it is not so easy to secure statistics on the cash value of the publicity to the actual grower. More information should be made available to the Association on this score. But from that which has been published it is at least possible to find encouragement. For instance, between April, 1955, and April, 1956, one grower has declared that his output increased by as much as 75%, yet he was able to get a better price from his merchant than before—in fact 12% better! In the greengrocery field, generally, there was no recorded increase in the value of sales in April, 1956, whilst in July last, there was a drop of 8% in value.

Finally, there is one aspect of the publicity drive itself which needs careful re-examination, and that is the amount of cash available for publicity. Publicity is absolutely essential if an increasing demand for mushrooms is to be created. Famous firms recognise the value of publicity, of course, and here are some approximate figures of the amount spent in newspaper and magazine advertising only, in 1955 (figure for Posters and T/V are not yet available).

Stork Margarine, estimated at	£400,000 approximately
Kraft Cheese Products ..	£300,000
Batchelors Canned Vegetables	£290,000

The mushroom growing industry is worth £7,000,000 per annum, with a total output of approximately 40,000,000 lb. This is a considerable turnover, and yet the amount devoted to publicity is very modest. Up to the end of September last, merchants and manufacturers had donated £846. I do not know the amount of the spawn levy, but if the levy was paid on the cartons required for the production of 40,000,000 lb., it would not exceed £6,000. (This calculation is based on a return of $1\frac{1}{2}$ lb. per square foot, and 40 square foot to the carton of spawn.) It does seem that, with all the potential sales awaiting growers, more could be contributed to the cost of publicity.

LITTLETON-ON-SEVERN
GLOUCESTERSHIRE
(approximately 12 miles from Bristol and Avonmouth Docks)

SALE OF
COMMERCIAL PREMISES
including about
30 ACRES OF LAND
known as
the Seven Tile and Brick Works

The premises include Manager's Private Dwelling House, Stores, Shed, etc., etc., which are very suitable for the large scale growing of mushrooms which

STANLEY ALDER AND PRICE
F.R.I.C.S. F.A.I.
Chartered Surveyors. Chartered Auctioneers and Estate Agents

Will Offer for Sale by Auction (unless previously sold privately) at the Grand Hotel, Broad Street, Bristol 1
on Tuesday, 13th NOVEMBER, 1956, at 3 p.m.

Full Particulars may be obtained from the Auctioneers' Offices:
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Telephone: 35071-2

SEEN IN N. IRELAND

Of particular interest to growers who may allow their thoughts to stray towards the use of pig manure, is this picture taken at Mountsandel Nurseries, Coleraine, N. Ireland. On the top bed (foreground) horse manure has been used whilst pig manure has been added to the compost in both the top bed (back) and the bottom bed. This would seem to prove a much earlier first flush with pig manure and the total crop weight over a given period should provide an interesting comparison.

Two well-known figures in the world of mushrooms, Mr. Robt. G. Darlington (right) and his brother, Mr. Harold Darlington (W. Darlington & Sons Ltd., Worthing), caught whilst making a close examination of a mushroom bed during the recent N. Ireland farm walk.

YES-OF COURSE

YOU WILL BE COMING TO THE

MUSHROOM INDUSTRY CONFERENCE
AND
EXHIBITION

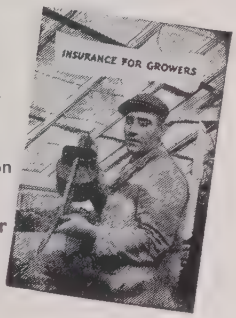
AT EASTBOURNE 14th & 15th NOV.

Insure with the

N.F.U. MUTUAL

and rest assured!

Ask your Farmers' Union Secretary for a copy of "Insurance for Growers"



NATIONAL FARMERS UNION MUTUAL INSURANCE SOCIETY LTD.
Head Office: Stratford-on-Avon

Tib. 204

the world's finest mushroom basket

Designed after consultations with growers, wholesalers and retailers, the Dring Mushroom basket embodies lightness, ease of stacking, rigidity and, above all, the wax impregnated board from which they are made *absolutely eliminates the possibility of the mushrooms being spoiled through the basket absorbing moisture.*

DON'T DELAY ORDER NOW!

DRING

at the lowest cost of any basket in use today

Dringport Works, The Airport, Portsmouth, Hants

BUBBLE
(MYCOGONE)
&
COBWEB
(DACTYLIUM)

MURPHANE Wettable (Zineb)

For spraying use 1 lb. per 100 gallons and apply 1 gallon dilute spray per 100 square feet of bed.

1 lb. 15/6, 7 lb. £5 1. 6, 14 lb. £9 16. 0, 28 lb. £18 18. 0, 56 lb. £36 8. 0.

MURPHANE Dust (Zineb)

For dusting use 8-12 oz. per 1,000 sq. ft. Apply after casing and give 2 further dustings between breaks. Alternatively use 4 oz. per 1,000 sq. ft. for regular weekly applications.

7 lb. £1 6. 3, 14 lb. £2 10. 2, 28 lb. £4 15. 8, 56 lb. £9 2. 0.

MURPHY

THE MURPHY CHEMICAL COMPANY LTD.

WHEATHAMPSTEAD HERTFORDSHIRE

Attention all Mushroom Growers ! ! !

INCREASED CROPS at DECREASED COST

HOW ?

Simply by using—

LANGSTAFF'S FRESH LONG WHEAT STRAW STABLE MANURE

for your next compost

Delivered by Road or Rail anywhere

H. C. LANGSTAFF OF LEEDS

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TELEPHONE LEEDS 25297

Orders or enquiries given immediate attention

SEE HOW

BRADFORD ACTIVATORS

ACTIVATOR "M"
99·9 COMPOST MAKER
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DRIED BLOOD

Help you achieve HIGHEST YIELDS *of* MUSHROOMS

Through their reliability and selected ingredients

Why not run a trial now, against your present form of supplement? Ask us to quote—or pay a visit to STAND 16 AT EASTBOURNE

For prompt delivery

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Whitefield Place, Girlington, Bradford 8

VISIT
STAND No. 17
for
SOMETHING NEW
in
MUSHROOM PACKING

□

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PORTSMOUTH
Tel. COSHAM 76822 3

AND

CANNING STREET, MAIDSTONE
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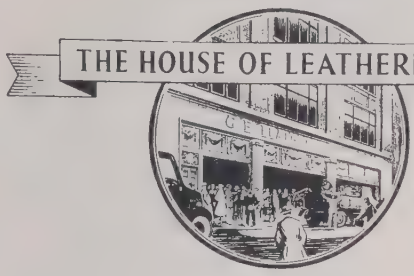
Sell with confidence through



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SEE THE **Hawkomatic** ON OUR **Stands 24 & 25**

Mushroom Industry Exhibition

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PURE DRIED GROUND POULTRY MANURE. This pure, natural organic is regularly used by prominent mushroom growing firms. It represents an invaluable *organic* activator for stable manure. Finely and evenly ground, it is convenient and clean to handle and being packed in ½ cwt. sacks, the weight you receive is *guaranteed*. Sample and prices (which vary according to the distance for carriage from our Works) on application. Sole Producers:—THE HAMPSHIRE GUANO CO. LTD., SOBERTON, SOUTHAMPTON. (Est. 1937). Manufacturers of " Gunos " (Regd.) Brand Fertilisers.

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CHALK AND CARBONATE OF LIME. Best quality Ground Chalk and Derbyshire Limestone supplied in bags; also broken chalk and limestone. DERBYSHIRE STONE LIMITED, Matlock. Telephone: 741.

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MUSHROOM FARM for disposal, 11,000 square feet. 3,500 Trays, Pinkerton Manure Turner. Ferguson Tractor with fork lift. Vertical steam boiler with pipes to pasteurising, spawning and all growing sheds. Alternative electrical heating system. The lease of an attractive six-roomed house, and two modernised cottages and available. Apply: Sir Oliver Leese, Worfield Gardens, Bridgnorth, Shropshire.

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GYPSUM offered to our Chalk customers at 8/- a cwt.; Carbo 9/4d.; Coolime 10/2d. Larger quantities at cheaper rates. COOPERS Builder's Merchants, Ashford and Canterbury.

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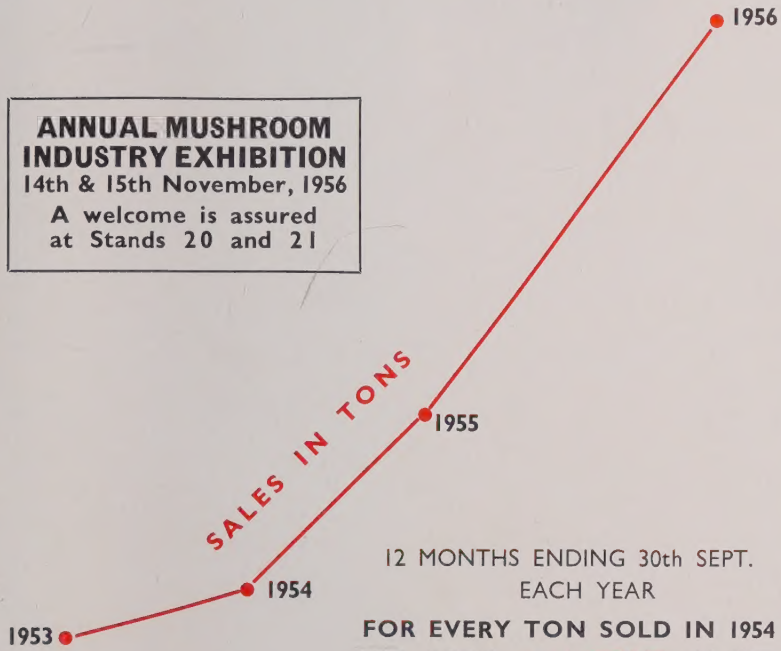
BE WISE—USE SHIRLEY
ORGANIC ACTIVATORS & H.O.C.

ANNUAL MUSHROOM INDUSTRY EXHIBITION
14th & 15th November, 1956
A welcome is assured
at Stands 20 and 21



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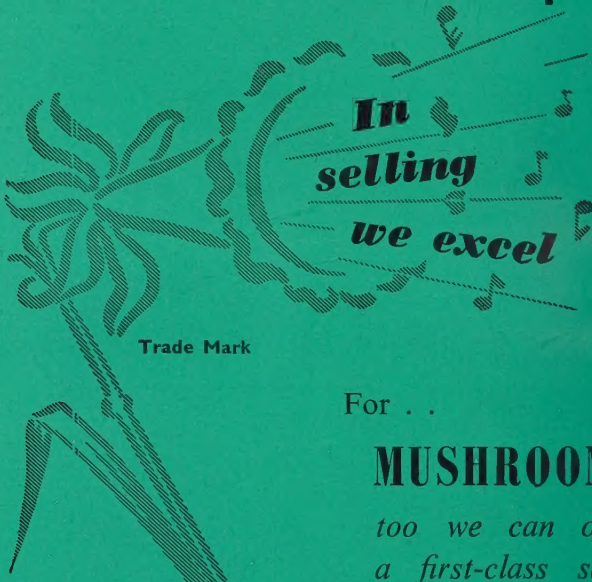

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